

RESPONSE TO EXAMINER REMARKS CLAIMS 20-36**Response to Examiner's Remarks, Office Action Dated March 7, 2007 regarding dependent Claims 22 - 31:**

Claim 19 has been amended after lengthy discussions with Examiner. Claims 22-31 are dependent claims of Claim 19, and therefore addressed by the discussion of the amended Claim 19. Applicant has also previously responded to Examiner's comments regarding claims 22-31.

Responses to Examiner's Remarks Office Action Dated March 7, 2007 regarding claims 32-33, 35, 36:**Claim 32-33:**

Examiner agrees that Bredesen does not disclose more than one physiological measurement means, as claimed in the present invention and has not cited any prior art for placement of blood oxygen measurement in a stethoscope housing, presumably agreeing that the placement of blood oxygen measurement within a stethoscope housing is allowable. Examiner cites Iliff's glucometer as an example of multiple physiological measurements. However, Iliff does not disclose the housing of such multiple measurement means within a wearable stethoscope and does not provide motivation to do so. The prior art makes no suggestion or motivation to combine Bredesen's stethoscope with Iliff's glucometer. Examiner has not stated a reason why a person of ordinary skill would place Iliff's glucometer within a stethoscope. Applicant thus submits that the combination of Iliff and Bredesen as presented by Examiner is a hindsight reconstruction based on Applicant's invention and it would be incumbent on examiner to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.

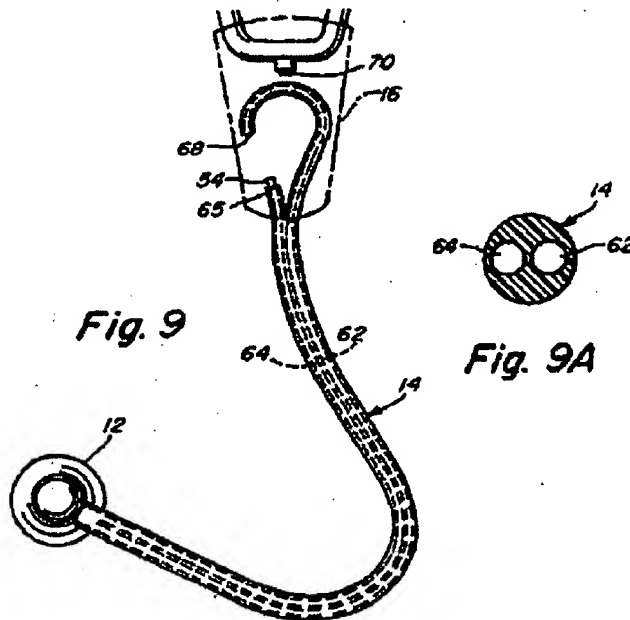
Claim 35:

Applicant has amended Claim 35 to remove references to the barcode scanner, thereby addressing Examiner's concerns regarding prior art disclosed by Plesko. There is no prior art suggestion or motivation for the combination of stethoscope and video input means and therefore the amended claim would be allowable.

Claim 36:

Examiner agrees that Bredesen does not disclose a second input for detecting voice sound as claimed in the present invention. Examiner cites Grasfield (US 5,825,895 Fig 1,2,8 and Col. 6 lines 49-56) as having a microphone for detecting voice sound. Examiner's reference to Grasfield states that:

The second acoustic conduit 52 continues through electronic housing 16, spring and switch housing 26 and continues through the first binaural 32. A microphone 54 is located near the end 34 of the second binaural 30. **Microphone 54 picks up the sounds transmitted through the chestpiece 12 and acoustic conduit 52** and converts the acoustic signal into electronic signals that are processed by the electronics circuitry located in the electronics housing 16.



In the figure shown (Grasfield Fig 9), and according to the quoted description, Grasfield has only **one** microphone, and that microphone is placed to **receive sound from the chestpiece** i.e. from the human body when using the stethoscope to listen to patients. The other conduit 68 does not have any microphone at all and is also **intended for listening to the patient**, but without any amplification presumably. Grasfield at no time suggests anything related to a second microphone for the purpose of detecting voice, and does not suggest that a stethoscope provide a feature to detect voice sounds. On the contrary, Grasfield's microphone is placed such that it detects sounds through the tubing connected to the chestpiece i.e. listening to patients hearts and lungs as in a stethoscope.

Applicant thus submits that Grasfield does not disclose, suggest or motivate the claimed invention. There are not two audio input means in Grasfield, and there is no means for detecting both voice sounds along with body sounds. The prior art therefore neither suggests nor motivates claim 36. Under the KSR guidance on considering common sense, there is no obvious reason to provide a stethoscope with voice detection means. The combination as claimed is entirely non-obvious.

SUPPORT FOR AMENDED CLAIM 19 IN THE SPECIFICATION

Examiner has requested that Applicant provide support for amended Claim 19 in the Specification.

Claim 19: An electronic stethoscope with expanded program execution and communications capability, comprising:

A portable housing in the physical form of a stethoscope that is wearable around the neck or shoulders of an operator, to house further elements comprising

Central processing unit,

Nonvolatile digital memory means selected from a group consisting of Flash memory, EEPROM, and magnetic media,

One or more software programs, executable by said central processing unit, which expand the functions executed by said stethoscope,

Said functions comprising medical measurement, information processing and communications functions,

Digital communications means,

Wherein said software programs are transferred via said digital communications means, stored in said nonvolatile digital memory means, and executed by said central processing unit.

The following provides references to the Specification, in support of Claim 19. Note that page and line numbering quoted here may differ from Examiner's copy of the present invention. (Bold indented text is the claim language. This is followed by quotes from the Specification in support of the claim.)

An electronic stethoscope with expanded program execution and communications capability, comprising

Specification: The preferred embodiment is in the form of a stethoscope-like device with expanded, general-purpose medical measurement, information and communications functions, beyond the basic auscultation functions. (Field and Background of the Invention, Page 1, lines 10-13).

A portable housing in the physical form of a stethoscope that is wearable around the neck or shoulders of an operator, to house further elements comprising

Specification: The form factor of the stethoscope allows it to be worn comfortably around the neck or shoulders (Field and Background of the Invention, Page 2, lines 15-16).

Central processing unit

Specification: Central Processor/ Digital Signal Processor 120 (Electronic Processing sub-system 102 Line 23 and Fig 1)

Nonvolatile digital memory means selected from a group consisting of Flash memory, EEPROM, and magnetic media

Specification: Nonvolatile technologies include but are not limited to Flash, EEPROM, or magnetic media. (Electronic Processing sub-system 102, section (b) Digital Memory, Page 7 lines 11-12)

One or more software programs, executable by said central processing unit, which expand the functions executed by said stethoscope

Specification: The Electronic Processing sub-system 102, provides hardware, firmware, software and storage functionality, and is operationally connected to the Sensor subsystem 101, User Input sub-system 103, Communications sub-system 104, or Output/Display sub-system 105. The Electronic Processing sub-system consists of one or more of the following elements:

(a) **Central Processor/ Digital Signal Processor 120,**
(Electronics Processing sub-system 102, Page 6)

Specification: Digital Memory 121, which stores programs (software) (Page 6, line 28)

Specification: However, the transition from a mechanical to an electronic stethoscope introduces the potential to **expand the functionality of the stethoscope**, using it as a more general-purpose electronic platform for other functions that are useful to the medical worker. (Page 2, lines 11-15)

Said functions comprising medical measurement, information processing and communications functions,

Specification: The preferred embodiment is in the form of a stethoscope-like device with expanded, general-purpose medical measurement, information and communications functions, beyond the basic auscultation functions. (Field and background of the Invention Page 1, lines 10-13)

Digital communications means

Specification: (See Detailed Description of the Preferred Embodiment, entire section on Communications sub-system 104 page 8.)

Wherein said software programs are transferred via said digital communications means, stored in said nonvolatile digital memory means, and executed by said central processing unit.

Support: The references to the Specification, provided below, taken together, disclose the above section of the claim as follows: The Communications sub-system (**communications means**) operates on protocols that facilitate **transfer** such as File Transfer Protocol (FTP). The Communications sub-system can **transfer** all data types that can be stored in the Digital Memory. The specification discloses that **software** can be stored in the Digital Memory. Hence, **software** can be **transferred** via the Communications sub-system (**communications means**). Once in Digital memory, the specification discloses an Electronic Processing sub-system which contains a **central processing unit** which can access the digital memory i.e. **execute** the software in digital memory. The references to the Specification below disclose all of these elements, thereby supporting the entire claim and all its elements:

Specification: Software in the Electronics Processor or the Communications sub-system itself controls the operations of the communications channel. This includes software protocols including, but not restricted to, TCP/IP, PPP, FTP, or other Internet protocols. (Communications sub-system Page 8, lines 35-38)

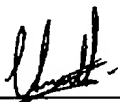
Specification: The Communications sub-system is intended to provide information exchange beyond auscultation information, for broader medical data purposes. The data types include, but are not limited to, any of the data stored in the Digital Memory, and described under the Digital Memory section. (Communications sub-system Page 9 lines 5-8)

Specification: Digital Memory 121, which stores programs (software), (Electronic Processing sub-system 102, Page 6 line 28).

Specification: The Electronic Processing sub-system 102, provides hardware, firmware, software and storage functionality, and is operationally connected to the Sensor subsystem 101, User Input sub-system 103, Communications sub-system 104, or Output/Display sub-system 105. The Electronic Processing sub-system consists of one or more of the following elements:

(a) **Central Processor/ Digital Signal Processor 120**,
(Electronics Processing sub-system 102, Page 6)

Respectfully submitted,



Signed, Clive Smith
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Enclosed:

Request for Continued Examination with Extension of time and Certificate of Mailing.
Petition for 3 month extension.

Fee payment in the amount of \$905 has been sent separately via US Mail today 9/7/07.